Sanjay Ghodawat University, Kolhapur

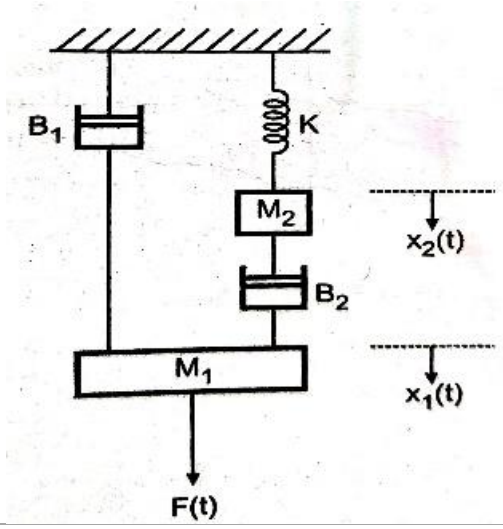
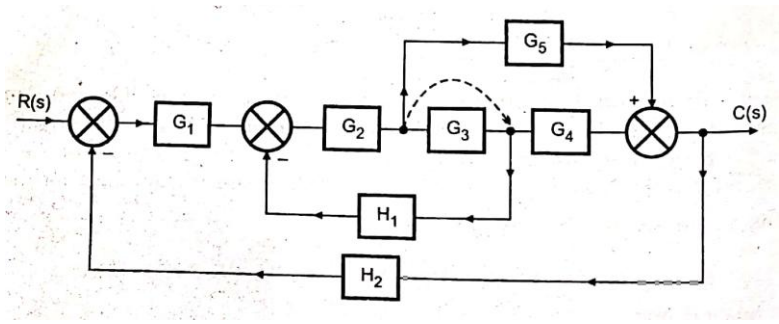
2020-21

Established as State Private University under Govt. of Maharashtra. Act No XL, 2017

EXM/P/09/00

Year and Program: 2020-21 TY BTech	**School of Technology**	**Department: Electrical Engg**
Course Code: ELE 302	**Course Title: Control System**	**Semester : VI**
Day and Date: Monday, 07/06/2021	**End Semester Examination**	**Time:2 Hrs. Max Marks:50**

Instructions: 1) All Questions are compulsory.

Q.1		**Answer/Solve the following (any Two)**	**Marks**	**Bloom's Level**	**CO**
	a)	Distinguish between Open loop system and Closed loop system.	8	L4	CO1
	b)	Draw the equivalent mechanical system of the given system. Hence write the set of equilibrium equations for it and obtain analogous circuits using i) F-V Analogy ii) F-I Analogy 	8	L3	CO1
	c)	Reduce the following block diagram and obtain transfer function C(S)/R(S). 	8	L2	CO2

Q.2		**Answer/Solve the following (any two)**			
	a)	Illustrate Proportional integral Control Mode (PI) and its advantages and disadvantages.	8	L2	CO2
	b)	Elaborate transient response analysis of first order system.	8	L3	CO3
	c)	Explain Transient Response Specifications.	8	L3	CO4
Q.3		**Answer/Solve the following (any two)**			
	a)	Given equation is S^5+S^4+2S^3+2S^2+3S+15=0 using Routh-Hurwitz criteria state how many roots are present on the right half of S-plane.	9	L3	CO4
	b)	For unity feedback system given below sketch the root locus. $G(s) = \frac{K}{s(s+4)(s+2)}$	9	L4	CO3
	c)	Elaborate the lead& lag compensation.	9	L4	CO3

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